



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20503
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 482,731	01 14 2000	Atsushi Murakami	266036	7400

7590 08 28 2002

Nixon & Vanderhye, P.C.
1100 North Glebe Rd, 8th Floor
Arlington, VA 22201-4714

EXAMINER

VO. HAI

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 08 28 2002

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/482,731

Applicant(s)

MURAKAMI ET AL

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-15 and 17-51 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-15, 17-33, 35-40 and 42-51 is/are rejected.
- 7) ☒ Claim(s) 34 and 41 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Art Unit: 1771

1. Claim 16 is cancelled in the amendment received on 08/07/2002.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6, 7, 19-24, and 44-51 rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP10-182865. JP'865 discloses a sound insulation sheet formed from the mixture of open cells and closed-cells ([0014]) having a concave part 12 in one surface, a convex part 13 on the other surface, and through-holes 14 formed from the concave part to the convex part (figure 4). The design of through-holes may all be the same or may each differ [0011]. Figure 4 of JP'865 shows the thickness of the sheet varies due the presence of the convex part and the concave part. The recitation "an engine cover" has not given patentable weight because it has been held that a preamble is denied the

Art Unit: 1771

effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. **Kropa v. Robie**, 88 USPQ 478 (CCPA 1951). With regard to claim 19, JP'865 discloses the open cell foam with 10% of the rates of a closed cell. Likewise, it is readily apparent that the porous insulation sheet will have different void percentages in different positions. The porous member of JP'865 meets all the limitations of structure and chemistry, i.e., plurality of through-holes, and the foam material being used to form the porous member, it is the examiner's position that the compressive-hardness, water absorbency, the bulk density of the porous member and the sum percentage of areas of opening of the holes formed in the surface opposite to the sound source would be inherently present. Note In re Best 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made under 35 USC 102. It is the examiner's position that JP'865 anticipates or strongly suggests the claimed subject matter.

5. Claims 8-15, 17, 18, and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10-182865 as applied to claim 1 above, and further in view of D'Antonio (US 5,665,943). JP'865 is silent as to a plurality of sound insulation sheets being stacked upon one another. D'Antonio teaches the sound absorbing panel for installation on a flat wall surface comprising a plurality of sound insulation sheets being stacked upon one another (figures 5-8, and 17). Figures 11-14 of D'Antonio show that one foam panel is partially secured to another foam panel. Further,

Art Unit: 1771

D'Antonio discloses that the foam panels are adhered together by an adhesive that is placed at small, greatly spaced, discrete locations thereon (column 4, lines 46-49). It is readily apparent that one foam panel is partially secured to another foam panel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the sound insulation panel comprising a plurality of sound insulation sheets being stacked upon one another motivated by the desire to increase depth of sound absorbing material.

With regard to claims 12, 26, the porous member of JP'865 as modified by D'Antonio meets all the limitations of structure and chemistry, i.e., a stack of a plurality of foam panels with the through-holes, one foam panel partially secured to another foam panel. Thus, it is the examiner's position that the sum percentage of areas with which the foam panel are secured to each other would be inherently present.

With regard to claims 13 and 18, D'Antonio discloses that the foam panels are secured to each other by an adhesive (column 4, lines 46-49). None of the cited art discloses or teaches the foam panels being secured to each other by sewing or a plurality of pins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the pins or sewing to secure the foam panels together since the examiner takes Official Notice of the equivalence of the adhesive or the pins or sewing for their use in the sound absorbing art and the selection of any of these known equivalents would be within the level of the ordinary skill in the art.

Art Unit: 1771

With regard to claims 14-15, 27, 28, see inherency rational with respect to claim 1 in the paragraph no. 5.

With regard to claim 18, JP'865 discloses the plywood being bonded to the upper face of the sound insulation sheet by an adhesive (examples 1-5). None of the cited art discloses or teaches the foam panel being secured to the plywood by sewing or a plurality of pins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the pins or sewing to secure the foam panel to the plywood since the examiner takes Official Notice of the equivalence of the adhesive or the pins or sewing for their use in the sound absorbing art and the selection of any of these known equivalents would be within the level of the ordinary skill in the art.

6. Claims 1, 3, 4, 7, 8, 14-15, 17, 19-22, 25-28, 30-33, 36-40, 43, and 49-51 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Momura et al (US 4,128,683). Momura discloses an auto ceiling panel comprising a polyethylene foam layer **2** and a vinyl chloride sheet **4** attached to the foam layer and bored with plurality of holes **5**. (figure 1 and column 2, lines 44-58). With regard to claim 3, Momura disclose the holes **5** being created with the diameter of 0.1 to 3 mm to an open rate of 1 to 20%, the larger holes **6** with the diameter of 1 to 8 mm to an open rate of 1 to 50% (column 2, lines 50-56). Likewise, it is readily apparent that the foam layers having the holes with different sizes and depths. With regard to claims 7, 17, 30, and 36, 43, the recitation "an engine cover" has not given patentable weight because it has been held that a

Art Unit: 1771

preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. **Kropa v. Robie**, 88 USPQ 478 (CCPA 1951). With regard to claim 8, Momura teaches the auto ceiling panel comprising the two foam layers **2** and **3** are joined to each other via a metal layer **1**. The porous member of Momura meets all the limitations of structure and chemistry, i.e., the foam layer coated with a coating film wherein the holes penetrate the coating film and the foam layer. It is the examiner's position that the compressive-hardness, water absorbency, the bulk density of the porous member, the sum percentage of areas of opening of the holes formed in the surface opposite to the sound source and the ratio or areas of openings of the holes opened in the surface having the coating film formed thereon would be inherently present.

Note In re Best 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made under 35 USC 102. It is the examiner's position that Momura anticipates or strongly suggests the claimed subject matter.

7. Claim 18, 35, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Momura et al (US 4,128,683). Momura discloses the auto ceiling panel having a layer structure as follows: a vinyl chloride sheet **4**, a polyethylene foam layer **2**, a metal lath **1**, a polyethylene foam layer **3** (figure 1). The vinyl chloride sheet is analogous to the claimed cover body. Momura discloses the vinyl chloride sheet bonded to the polyethylene foam layer by an adhesive (column 2, lines 45-47).

Art Unit: 1771

Momura is silent as to the foam layer being secured to the vinyl chloride sheet by sewing or a plurality of pins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the pins or sewing to secure the foam panel to the vinyl chloride sheet since the examiner takes Official Notice of the equivalence of the adhesive or the pins or sewing for their use in the sound absorbing art and the selection of any of these known equivalents would be within the level of the ordinary skill in the art.

With regard to claims 35 and 42, Momura is silent as to the polyurethane foam. It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace polyethylene foam by polyurethane foam because polyurethane foam is relatively low cost compared to polyethylene product of similar design and configuration and therefore this has left the polyurethane foam to fill most acoustical absorption processing needs.

8. Claims 1, 3, 4, 7, 8, 10, 14-15, 17, 25-28, 30, and 49-51 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Akiyama et al (US 4,713,277). Akiyama discloses the foamed metal having a thin film aggregate structure of polygonal cells of from 2 to 10mm in average diameter (column 2, lines 10-19). Akiyama discloses the foamed metal having the through-holes in the foam wall to communicate the closed cells (column 2, lines 41-46). Any sound absorbing article is made of a porous or foam material that has the through-holes in the foam would read on the claimed subject matter. Figure 13 (C) of Akiyama shows that the two foamed metal layers are secured to

Art Unit: 1771

each other by a resin layer **29**. Figure 9C shows that the two foam layers **24** are separated by an air layer **13**. Figure 9A shows that a foam layer **24** is bonded a sound insulating plate **15**. The porous member of Akiyama meets all the limitations of structure and chemistry, i.e., the two foamed metal layers are secured to each other by a resin layer, each of foam layers having the voids and the through holes therein. It is the examiner's position that the compressive-hardness, water absorbency, the bulk density of the porous member, and the sum percentage of areas of opening of the holes formed in the surface opposite to the sound source would be inherently present. Note In re Best 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made under 35 USC 102. It is the examiner's position that Akiyama anticipates or strongly suggests the claimed subject matter.

Allowable Subject Matter

9. Claims 34 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art teaches or suggests the sound absorbing structure comprising at least one porous member having the through-holes or non-through holes therein wherein 25%-compressive hardness of said porous member is 0.5 N/cm² or lower and wherein a coating film formed on at least a surface of the porous member which is opposite to a sound source wherein the holes penetrate the coating film and the porous member; wherein the porous member is one of urethane foam and a molded fibrous material.

Response to Arguments

10. The 112 claim rejections in Paper no. 12 have been overcome by the present response.

11. The Declaration under 37 CFR 1.132 filed 08/02/2002 is sufficient to overcome the rejection of claims 1-4, and 6-51 based upon WO 96/28297. The declaration swears that the fiber-reinforced thermoplastic resin expanded body used in WO'297 is harder than the material according to the claimed invention and will not meet the compressive hardness as set forth in the claims. Therefore, the finality of that action is withdrawn.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Monday to Friday, 8:30 to 5:00 (EAST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Art Unit: 1771

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV
August 22, 2002



TERREL MORRIS
SUPERVISORY PATENT
TECHNOLOGY